Wildlife

City Parcel

Wildlife use of the agricultural fields is severely limited by the lack of native vegetation, lack of cover, and consistently high levels of human disturbance. Rodent activity was detected in several areas, and consisted primarily of pocket gopher (*Thomomys bottae* ssp.) and California ground squirrel (*Spermophilus beecheyi*) burrows. Both species are moderately common over the entire agricultural portion of the site, the ground squirrels in particular forming a loose colony within the western margin of the fields. We observed a single great blue heron (*Ardea herodias*) stalking prey (probably gophers) in the fields in the eastern portion of the site, and several red-tailed hawks (*Buteo jamaicensis*) are resident locally. Dogs and their tracks are common on the site, but it is probable that a few carnivores and omnivores (such as coyote, *Canis latrans*, raccoon, *Procyon lotor*, long-tailed weasel, *Mustela frenata*) persist locally. Non-native mammals expected to occur here would include opossum (*Didelphis virginiana*, tracks observed 1997), black rat (*Rattus rattus*), house mouse (*Mus musculus*) and domestic cats.

One shrub and one tree species, castor bean (*Ricinis communis*) and Tasmanian blue gum (prob. *Eucalyptus globulus*), respectively, comprise most of the marginal vegetation; both are non-native, noxious invasives (and in the case of castor bean, highly toxic) that contribute minimally to and/or more often detract negatively from natural habitat values. Following disturbance, the fields and contiguous portions of the knoll revegetate with non-native annual grasses, Australian saltbush and small thickets of castor bean, overstoried by the row of decadent gum trees. Numerous trees in the grove are either dying or dead. About one-third of the gum trees present exhibit limb drop and crown death typical of drought-stressed eucalyptus, and most of them are heavily-infested by two species of *Eucalyptus* borers (*Phoracantha semipunctata, P. recurva*), imported Australian beetles which kill trunks and branches of gum trees with low internal water balances.

Although some birds of prey and a few songbirds may utilize *Eucalyptus* for perching, roosting and nesting, such use is low and non-essential relative to native tree species, and as a rule the presence of these trees degrades natural habitat values. Native songbirds may die from nasal suffocation if they attempt to feed from the sticky blossoms of gum trees (R. Stallcup, 1996, "*Deadly Eucalyptus*", Pt. Reyes Bird Observation Laboratory newsletter), and eucalyptus shade and leaf debris can degrade soils, suppress native plant growth and promote invasive alien weeds.

More importantly, it must be noted that tall trees of any kind are not natural features of southern California coastal salt marsh ecosystems. No such trees grew alongside the marshes prior to human habitation of the areas, and their presence adjacent to marshlands provides birds of prey and crows with hunting perches and nest sites, contributing to unnaturally-intense levels of

predation and harassment of sensitive wetlands wildlife. Several active crow nests and one nest possibly of a red-tailed hawk, are present in the grove of gum trees, and during the June, 1997 visit, crows were observed taking and eating northern mockingbird fledglings from nests in yards in adjacent residential developments.

Eucalyptus trees are often subjectively and/or emotionally viewed as aesthetic amenities, so it is important to note that they are not native in any part of North America. Additionally, their presence and invasive spread directly alters and degrades the biotic integrity of the natural habitats.

County Parcel

Although no invertebrates were observed in standing rainwater on the site, several species of shorebirds and songbirds (common snipe, *Gallinago gallinago*; spotted sandpiper, *Actitis macularia*; black-necked stilt, *Himantopus mexicanus*; western kingbird, *Tyrannus verticalis*) were foraging in and around the arena depression during early visits. The only native mammals seen were Audubon cottontail (*Sylvilagus audubonii*) and California ground squirrel, both of which feed in the agricultural fields; eastern fox squirrel (*Sciurus niger*), an imported pest species locally, was seen in urban areas on top the knoll. Tracks, fur and scat of non-native red fox (*Vulpes vulpes*) were observed near the arena site and within the pickleweed patches.

Prior to their removal, the physical habitat structure of the two pickleweed patches (.2 acres) was relatively intact, at least in terms of residence sufficiency for low numbers of smaller organisms, but nothing larger than invertebrates, rodents or songbirds.

The patches were fragments of a formerly much-larger system which had been severely constricted and degraded by construction of the East Garden Grove - Wintersburg Channel, and it is possible that species such as broad-handed mole (*Scapanus latimanus*), pocket gopher, house mouse, black rat, Stephen's vole (*Microtus californicus stephensi*), harvest mouse (*Reithrodontomys megalotis longicauda*), Audubon cottontail, song sparrow (*Melospiza melodia*) and Belding's savannah sparrow (*Passerculus sandwichensis beldingi*) at one time might have occurred within them, either in low resident densities (mole and rodents), or as transients from other, more suitable, habitat systems nearby (birds).

None of the species noted above were observed during the FHA's surveys, but several species of wintering songbirds, including white-crowned and golden-crowned sparrows (*Zonotrichia leucophrys, Z. atricapilla*) were observed foraging in the pickleweed patches.

The presence of even a few red foxes within such a small area of natural habitat would seriously compromise its ability to support small mammals and low-nesting birds populationally. Red foxes in other systems (Seal Beach, Ballona wetlands) have proven to be thorough and relentless

predators upon virtually all smaller organisms; when numerous they may hunt in packs, killing larger species such as raccoon, egrets and great blue heron. They would particularly depress or extirpate populations of surface-dwelling rodents such as voles and harvest mice, and in a small, confined area, foxes would quickly eliminate song or savannah sparrows as breeding birds. A fox den was not found during field surveys; however, FHA concluded their tracks were evident in several areas, and the partially-eaten remains of an undetermined shorebird were found near the pond. Although FHA did not search for foxes in June, 1997, tracks possibly of foxes were observed, and their pungent musk odor was detected, leading FHA to conclude that the foxes survived the recent disking of the patches. Because of their presence, FHA concluded that the pickleweed fragments did not likely support resident populations of any native rodents or songbirds.

Sensitive Species

General Definitions - Regulatory Framework

Sensitive species are classified in a variety of ways, both formally (e.g. State or Federal Threatened and Endangered Species) and informally (California Department of Fish and Game (CDFG) "Special" species. Species may be formally listed and protected as Threatened or Endangered by CDFG or U.S. Fish and Wildlife Service (USFWS, "the service") (Federal: FT, FE; State: ST, SE), or as California Fully Protected (CFP). Informal listings by agencies include California Species of Special Concern (CSC) (a broad data-base category applied to species, roost sites, or nest sites); or as USFWS Candidate taxa. CDFG and local governmental agencies may also recognize special listings developed by focal groups, if properly reviewed and published (i.e. Audubon Society "Blue List", California Native Plant Society (CNPS) Rare and Endangered Plants").

Sensitive Vegetation Resources on the Project Site

The absence of natural wetlands values, combined with frequent topsoil discing, have removed whatever native vegetation associations might once have existed on the Huntington Beach portion of the property.

There are no surface wetlands features on the Orange County portion of the project site. The small patch of pickleweed (.2 acres) discussed earlier were remnants of former marshland habitat, isolated by the construction of the East Garden Grove - Wintersburg Channel and degraded by agricultural and other land uses over the past 45+ years.

Sensitive Invertebrates

There are no sensitive invertebrates on the project site.

The wide-ranging monarch butterfly (*Danaus plexippus*) is not protected as a species, but is of concern to the CDFG where it forms wintering aggregations in tall trees along the coast. The site was visited on several occasions during Winter, and while numerous monarchs were observed nectaring on the blossoms of the gum trees, and no aggregations were seen. Saltmarsh skipper butterfly (*Panoquina errans*) larvae feed on saltgrass in local coastal areas, and it may occur wherever the plant is found; however, it was not observed during the surveys, and there is very little of the host plant on the site. Coastal populations of sensitive tiger beetle species (*Cicindela spp.*) are generally found on saltflats, mudflats, dune strands, open dune sands, or around the margins of estuaries; no tiger beetles were observed on the site, and there are no habitats suitable for population formation by any sensitive cicindelid species.

Sensitive Vertebrates

There are no sensitive fish, amphibians or reptiles on the project site, and none would be expected to occur within the surrounding upland areas.

A number of sensitive bird species might forage casually in or over the agricultural field, or within the East Garden Grove - Wintersburg Channel, but none of these would be directly dependent upon the resource base of the site for population maintenance or their continued local existence. Refer to Appendix G for a listing of sensitive shorebird and marshland species expected to occur casually from the Bolsa Chica wetlands, or as vagrants, on or near the project site. Sensitive raptors observed locally or expected to pass through the general site vicinity during seasonal migration would include:

Swainson's hawk	*Buteo swainsoni*
ferruginous hawk	*Buteo regalis*
Cooper's hawk	*Accipiter cooperii*
sharp-shinned hawk	*Accipiter striatus*
northern goshawk	*Accipiter gentilis*
osprey	*Pandion haliaetus*
white-tailed kite	*Elanus leucurus*
northern harrier	*Circus cyaneus*
American peregrine falcon	*Falco peregrinus anatum*
merlin	*Falco columbarius*
western burrowing owl	*Athene cunicularia hypugea*
short-eared owl	*Asio flammeus*
long-eared owl	*Asio otus*

The open agricultural field, with its abundant gopher and ground squirrel populations, may attract resident and seasonal hunting use by birds of prey, including a number of hawks and owls. The trees adjacent to the field provide nest and roost sites for some generalist species (red-tailed hawk, *Buteo jamaicensis*; red-shouldered hawk, *Buteo lineatus*; great horned owl, *Bubo virginiensis*; barn owl, *Tyto alba*), but sensitive taxa generally would not be expected to breed within this type of disturbed and non-native habitat.

A pair (presumably) of white-tailed kites was observed in June, 1997, foraging and roosting in eucalyptus trees along the northern margin of the Orange County area. Cursory searching at that time did not reveal a nest, but the bird's behavior and presence at that time of year could indicate a local territory. Single individuals of northern harrier and ferruginous hawk were also observed over the site, in November, 1997. A single loggerhead shrike, possibly a wintering migrant and not a local resident was seen in January, 1997, flying upslope on the knoll between the stables and gum tree grove. FHA did not see this species in June, 1997, but a single bird was observed near the terminus of Bolsa Chica Boulevard, at the north end of the knoll top, in November, 1997. It is not possible to determine the resident status of this species on the site based upon these isolated observations. The frequency of discing and clearing, combined with the continuous presence of humans, dogs and red foxes along the channel berm and in the agricultural fields probably renders the site unsuitable for burrowing owl nesting, although the species does breed sporadically in upland habitats along the southern California coast.

Habitat values are completely lacking on-site for sensitive songbird species, except for extremely marginal use of the trees and surrounding residential areas as sheltering sites during seasonal migration. No listed species would find resident habitat resources on the site, and it is unlikely that local saltmarsh endemics (such as Belding's savannah sparrow) would leave the higher quality habitats south of the channel to forage in the open, ruderal field or gum tree grove.

Sensitive mammal use of the site would directly depend upon the presence of suitable food resources, home range or territory availability and quality, and tolerance for human activity. The only native mammals currently resident on the property (as determined by tracks, scat, fur, burrows and other sign) are ecological generalist species which have "urbanized" broadly in southern California, and are either sufficiently small and/or mobile to maintain viable populations in a highly fragmented landscape. Bats, which are highly-mobile and somewhat migratory, could occur anywhere in southern California where flying insect populations are sufficient to sustain their aerial feeding requirements. Sensitive species which might be expected to occur within or over the Bolsa Chica wetlands and adjacent upland habitats would include:

so. Calif. saltmarsh shrew	*Sorex ornatus salicornicus*
California leaf-nosed bat	*Macrotus californicus*
pallid bat	*Antrozous pallidus*

big-eared bat	*Plecotus townsendi sspp.*
small-footed bat	*Myotis ciliolabrum*
long-eared myotis bat	*Myotis evotis*
fringed bat	*Myotis thysanodes*
long-legged bat	*Myotis volans*
Yuma myotis	*Myotis yumanensis*
California mastiff bat	*Eumops perotis californicus*
San Diego black-tailed jackrabbit	*Lepus californicus bennettii*
Pacific pocket mouse	*Perognathus longimembris pacificus*
San Diego desert woodrat	*Neotoma lepida intermedia*
Stephen's vole	*Microtus californicus stephensi*

The shrew and vole generally occupy open, grassy habitats around the margins of marshes, while the jackrabbit, pocket mouse and woodrat typically reside in open, sandy coastal sage scrub habitats, and only the woodrat is tolerant of frequent human disturbance. No evidence of these or other sensitive mammals was observed on the site, and the regular discing of the field and knoll areas effectively precludes long-term utilization of that portion of the site by most burrow-inhabiting organisms (although the gophers and ground squirrels recolonize the area rapidly). Marshland species historically may have occurred locally north of the East Garden Grove - Wintersburg Channel, but channel construction impacts, recent fox predation, generally low habitat quality, and the frequency of human disturbance on the site would preclude even moderate species diversity or densities.

Wildlife Movement Corridors and Habitat Linkages

Natural movement corridors and habitat linkages have been the focus of numerous studies intended to better understand relationships between large animal populations, open space reserves, and natural movement patterns (see Referenced Materials in Appendix G). Fragmentation of large habitats into smaller or isolated segments has been demonstrated to reduce natural biological diversity, eliminate disturbance-sensitive species, restrict genetic flow between meta-populations, and can lead to localized extinctions of entire floral or faunal assemblages. Most land use planning guidelines now recognize the importance of protecting wildlife movement corridors, and seek to retain major linkages intact wherever possible. Defining corridor alignments and specific spatial and resource requirements may be somewhat conjectural, but simply-stated, the accepted basic rule in planning corridors or reserves is that "bigger is better".

The project site is "land-locked" on the north and east margins by existing residential development and infrastructure, and has been effectively isolated terrestrially from the Bolsa Chica marshlands to the south by the interposing East Garden Grove - Wintersburg Channel. Open space to the west lies up and over the knoll, but there are yet open marshland and degraded

upland habitats in that direction. Larger, more mobile species (coyote, fox, bobcat, raccoon) can easily traverse the knoll and reach the site from the west, but there are insufficient resources within the property to induce any of these taxa to remain. They can use existing service road crossings to move over the channel and into habitats to the south, so for these species there may yet be a tenuous linkage with larger open space.

Smaller, less-mobile species (rodents, lizards, snakes, amphibians) already have severely reduced population densities within the remnant areas on the north side of the channel, and their relative inability to cross the channel precludes all but extremely infrequent movement to or from the south. For such species, the site and surrounding uplands provide limited habitat values or sustaining resources, and there are no effective corridor or linkage systems to larger, more viable habitat areas nearby.

Flying insects, birds and bats have the ability to move easily from the site to surrounding open space areas, and their use of the site would be directly related to its foraging or other resource values, not as part of a migratory corridor or seasonal use area. The ruderal and exotic vegetation formations present do not offer unique or essential resources to migratory species, and actually may be a decrement of those found within other urban open space (such as parks and golf courses), because of the degraded nature of the site and the lack of standing water.

IMPACTS

Potentially significant impacts on biological resources posed by the proposed project were delineated from criteria contained in the CEQA Guidelines. Appendix G of these guidelines states that a project will normally have a significant impact on biological resources if it will:

- Substantially affect a rare or endangered species of plant or animal or the habitat of such species.
- Interfere substantially with the movement of any resident or migratory fish or wildlife species.
- Substantially diminish habitat for fish, wildlife, or plant.

Section 15065(a) of the CEQA Guidelines also states that a project may have a significant effect on the environment when "the project has the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, or reduce the number or restrict the range of a rare or endangered plant or animal. In addition, because of the sensitive nature and decline of wetland habitats throughout California,

the removal, filling, dredging, or alteration (directly or indirectly) of wetland or riparian areas will be considered a significant impact.

Potential Project Impacts to Biological Resources (General Impacts)

Implementation of the proposed project would not remove or alter any natural or native vegetation formations on the property. The site contains no natural wetland habitat, coastal sage scrub or other sensitive natural assemblages. No natural plant communities or natural populations of native species would be affected, directly or indirectly, by the proposed development. Conversion of 44 acres of agricultural field and 5 acres of ruderal and degraded gum tree stands would not result in important or significant losses of habitat or biological support resources of native wildlife populations.

Alteration of the project areas from their existing conditions, and removal of non-native shrubs and trees would not contribute incrementally at any level of biological significance to general losses of natural habitat within the local area. The project would generate no direct significant adverse impacts to natural wildlife habitats on a local or regional scale.

Impacts to Resident Birds of Prey

At least one native raptorial bird species, the red-tailed hawk, appears to nest within the exotic tree grove on the margin of the project site. These trees are in a declining state of health, with many of them dying or dead, and may pose a limb-drop hazard to activities beneath them. The loss of potential or actual nest sites for native birds of prey within the mature gum tree grove an the northwest corner of the Huntington Beach parcel would be an important local impact of the project.

The loss of active nesting sites for native birds of prey, or disturbance of occupied nests during the breeding season would be a significant impact. Mitigation Measure 1 has been proposed to reduce this impact to a less than significant level.

Impacts to Sensitive Species

No sensitive plant, invertebrate, fish, amphibian, reptile, bird or mammal species are known or expected to reside within, or occur in a resource-dependent relationship with, any portion of the overall 49 acre site. No adverse impacts are projected for any agency-listed species known to occur within the greater Bolsa Chica ecosystem as a result of the conversion of the project site from its present conditions (agricultural land and ruderal bottomland with exotic trees) to urban recreational and residential uses. The loss of minor acreages of marginally-suitable foraging, loafing, sheltering and hunting areas for resident and migratory wildlife will not result in a measurable decline or harm to any of the affected species. Most transient resource uses by

migratory wildlife would continue within urban landscapes, except foraging and hunting by larger predators.

Removal of exotic trees from the site would alleviate existing levels of hunting pressure by predatory birds within the adjacent Bolsa Chica wetlands, which might be a beneficial impact to sensitive species residing therein. Project implementation would generate no direct significant adverse impacts to native wildlife populations or sensitive species locally or regionally.

Impacts to Wetlands and Riparian Areas

County Parcel - Impacts to Wetland Values

It should be noted that the delineated "pocket wetlands" shown on the EPA map (refer to Appendix G) within the Orange County parcel do not overlay the area of pickleweed. It appears that it was not determined to have been wetlands in the 1989 EPA delineation. The EPA map overlay follows the contours of the base of the knoll, possibly the historic alignment of a runoff channel from the north; however, this area now has been elevated several meters above natural wetlands grade (as measured against existing habitats west of the site) by slope subsidence and roadway grading, and is overgrown with *Eucalyptus* trees. Nevertheless, removal of the pickleweed patch will require pocket wetland mitigation consistent with Policy 2.2.25 of the Bolsa Chica LCP. Mitigation Measure 2 will reduce the impacts associated with the removal of ~~.2~~ ***.4*** acres of pocket wetlands to a less than significant level.

City Parcel - Impacts to Wetlands Values

The Huntington Beach parcel contains an area variously delineated at between 7.6 and 8.3 acres of wetlands, as determined by the single parameter method, wherein the presence of hydric soils suffices to define a wetland. The most recent determinations of the site (D. Sanders, 1991; T. Dodson & Assoc., 1997) concluded that the putative hydric soils were delineated during a period of high groundwater, and that the site in fact no longer meets any of the EPA, ACOE, CDFG, USFWS or Coastal Commission criteria for wetlands. There are no identifiable natural wetland or marshland vegetation formations on the site, seasonally or as regrowth following alterations (although some ruderal and disturbance-tolerant plant taxa present are facultative wetland or upland species), and there are no natural surface water features.

There are no riparian plants, formations or habitat values on the overall property. The nearest riparian indicator species to the project site are a few mulefat (*Baccharis salicifolia*) shrubs growing in a low swale on the roadway margin at the south end of the knoll, above the dirt access road. These do not constitute a riparian habitat formation.

Based on the results of the December, 1998 Updated Wetlands Delineation (Appendix G) and the March, 1998 Correspondence from the State Department of Fish and Game, the proposed

project would generate no adverse impacts to identifiable surface wetlands, marshland or riparian features or associated wildlife resources or populations, nor would it alter any natural watercourse or other surface hydrological feature.

Impacts to Wildlife Movement Corridors and Habitat Linkages

The project site does not provide essential resources for any migratory wildlife species, nor is it within an identified major movement corridor for terrestrial wildlife. The open, ruderal agricultural field is not an important local stopover resource for migratory waterfowl or other seasonally-occurring species. Small animal movement into and out of the site is residual to natural population movement within larger open space reserves and undeveloped land nearby. The service road passage exiting the site and crossing over the channel connects on the south side at a residential area, and of the two crossings adjacent to open space locally, the westernmost roadway (at the margin of the Orange County. parcel) offers the most direct and undisturbed passage between habitat areas.

Implementation of the proposed project would result in no identifiable significant adverse impacts to wildlife movement on a local, regional or statewide scale.

CUMULATIVE IMPACTS

The project, in conjunction with other past, present, and reasonably foreseeable future projects, will incrementally contribute to the cumulative loss of biological resources. The project's incremental contribution to this impact will be mitigated to a less than significant level.

STANDARD CITY POLICIES AND REQUIREMENTS

The intent of this section is to state standard City conditions and requirements which reduce impacts identified previously in this section. No standard City conditions or requirements are applicable to identified project impacts.

MITIGATION MEASURES

Where significant impacts to site resources have been identified above, appropriate mitigation measures are suggested, intended to reduce the level of the impact to less than significant levels biologically.

1. If project grading construction is scheduled during the normal breeding season for red-tailed hawk and other raptors locally (March to July), a survey shall be conducted for active nests. Prior to the issuance of grading permits, should any active nests be located within the zone of potential disturbance, construction activities shall be limited to areas

500 feet away from the nest until the young have fledged and have begun foraging away from the nest site. The 500 foot protection zone shall be fenced with visible warning-color materials. Nest trees shall be removed during the non-breeding season only.

2. Wetlands impacts to the isolated pocket wetlands shall be mitigated at a ratio of 4:1 (square footage of wetlands to square footage of fill). The Coastal Development Permit shall require that ***mitigation for*** the fill of the pocket wetlands, ~~that mitigation~~ be implemented prior to ~~or concurrent with the development creating the adverse impact~~ ***the issuance of a grading permit for the 4.5 acre County Parcel***. The mitigation site shall be ***on-site or*** within the Bolsa Chica Lowlands unless the Lowlands are sold to a new landowner and the new landowner is unwilling to allow the proposed mitigation to proceed. In such a case, the developer of the site shall find an alternative mitigation site. ***The total mitigation for the loss of two small patches of degraded pickleweed habitat shall include the preservation and enhancement of 2 acres of appropriate wildlife habitat per the Department of Fish and Game.***

LEVEL OF SIGNIFICANCE

Mitigation Measure 1, which requires the protection of raptor nest sites during construction, and removal of nest trees during the non-breeding season will suffice to reduce impacts to the affected species locally and regionally to levels of biological insignificance. Implementation of Mitigation Measure 1 will ensure no construction impacts result to the potential loss of active nesting sites for native birds of prey.

Implementation of Mitigation Measure 2 will reduce potential impacts to pocket wetland habitats on the County parcel to a less than significant level.

The project, in conjunction with other past, present, and reasonably foreseeable future projects, will incrementally contribute to the cumulative loss of biological resources. The project's incremental contribution to this impact will be mitigated to a less than significant level.

5.9 CULTURAL RESOURCES

The information contained within this section is summarized from a technical report prepared by Brian D. Dillon, Ph.D. titled Archaeological Assessment of the SHEA Homes Project Tentative Tract 15377 and Tentative Tract 15419, March 1997. The report in its entirety is provided in Appendix H of this EIR. The summary below focuses on the onsite archeological resources, the significance of the resources, potential project impacts to the onsite resources, and mitigation measures required to reduce or eliminate project impacts. A detailed discussion of the different Pre-Historic and Historic periods is provided in Appendix H. The "Early Millingstone Horizon" period is described below due to the fact that this period relates to the archaeological site CA-ORA-83. Prior archaeological work has been performed on this site as part of the previous environmental documentation described in Section 3.0. The previous archaeological work is noted below and the findings of prior work have been incorporated by reference into the Appendix H report. The discussion regarding paleontological sites is taken from the January 1996 Bolsa Chica LCP which includes the county portion of the property.

EXISTING CONDITIONS

Paleontological Sites

According to archival information from the natural History Museum of Los Angeles County (as reported by Dr. John Cooper, a county-certified archaeologist/paleontologist, 1992) the Bolsa Chica LCP Area does not contain any recognized or previously-recorded paleontological sites.

A surface examination of sediment exposures in Bolsa Chica revealed locally abundant molluscan invertebrate shell material (Cooper, 1980). This material is geologically young (5,000 to 10,000 years old) and is not considered to be paleontologically significant. No other occurrences of fossils were noted.

Quaternary deposits along the Orange County coast have produced abundant and significant invertebrate fossils, a well as scattered, significant vertebrate remains. The closest vertebrate fossil location is LACM 65113 (located about one mile north of the Bolsa Chica LCP along Warner Avenue in Huntington Beach), which yielded late Pleistocene mammoth tooth and tusk fragments and bison jaw bone fragments. Other late Pleistocene terrestrial vertebrate remains have been recorded off-site on the Newport Beach Mesa and in the Seal Beach area.

Archeological Background

Between 7,000 and 1,200 B.P., Wallace's (1955 and 1978) Milling Stone Horizon or Warren's (1968) Encinitas Period sites are marked by large numbers of manos and milling stones and relatively few projectile points. This assemblage is interpreted to be the result of a greater emphasis on seed collecting. A large percentage of the tool assemblage is composed of crude chopping, scraping, and cutting tools (Warren 1968:2). Bone tools and shell beads are rare and basketry manufacture is suggested by the presence of tarring pebbles.

Also characteristic of this early period are "Cogged Stones" (Eberhardt, 1961) of unknown function, possibly gaming pieces or field hockey stones, as well as discoidal stones. Both were made through pecking and grinding, and have been found at Millingstone sites both on the coast and in the interior. Such cogged stones are most commonly found at sites along the Orange County coast such as ORA-83, informally known for many years as the "Cogstone Site".

Archeology Studies/Findings

Records Search Findings

In February 1997, Brian D. Dillon conducted a field survey of the project site. Normal survey techniques, as developed at the University of California were utilized. Ten- to twenty-five meter-wide parallel transects were walked at minimum over the study parcel, depending upon slope, vegetational cover, and other variables, but all locations most likely to contain archaeological sites or reveal information about the subsurface, especially areas identified by previous researchers as archaeologically sensitive, were inspected more closely, usually by means of five-meter-transects.

The 1997 archaeological field survey of the site confirmed the existence not only of portions of CA-ORA-83 already said to exist on the western margins of the project site, but also the two much smaller and less significant archaeological sites (CA-ORA-1308 and CA-ORA-1309), documented by De Barros in 1992.

The 1992 site records for all three sites are included in Appendix A of Appendix H, and detailed discussions of each site appear below.

Foot Survey Findings

An archeological records search conducted at the UCLA Archeological Information Center in February, 1997, revealed that what is now the Shea Homes property has been evaluated by archeologists on no fewer than four previous occasions, and that four separate archeological reports exist detailing the nature of the property's archeological resources. Unfortunately, not all

of these reports have been filed with the UCLA AIC and were not initially available at the time of Dillon's archival search. Of these four reports, the earliest (Ross and Desautels, 1970) is too general to be of much use, but the later three (Wlodarski, 1981; De Barros, 1992; Orange County Environmental Management Agency, 1996) contain very precise archeological site inventory information and specific mitigation recommendations. As early as 16 years before the present research, it was recognized and formally stated (Wlodarski, 1981) that a portion of the very ancient and highly significant CA-ORA-83 archeological site overlapped onto the northwest corner of the study parcel. Subsequent researchers (De Barros, 1992; OCEMA, 1996) confirmed this conclusion. In 1992, two previously undiscovered small archeological sites (CA-ORA-1308 and CA-ORA-1309) were additionally recorded upon the Shea Homes property (De Barros, 1992), bringing the total number of recorded archeological sites known to exist on the property to three.

CA-ORA-83

The majority of this archeological site is located off the project property. This archeological site lies on the eastern and southeastern edge of Bolsa Chica Mesa overlooking Bolsa Chica Lagoon. One of the most significant of all Orange County sites, ORA-83 is also known as the "Cogstone" site after the great numbers of these Early Millingstone artifacts recovered from it over the past 70 years. Because of constant cultivation over the past century, many buried artifacts have been brought up to the surface of the site, and until very recently, CA-ORA-83 has produced many more diagnostic artifacts from "surface" (i.e., brought up by the plow) contexts than from scientific excavation. The ORA-83 site has been more thoroughly excavated over a longer period of time, and by a greater number of different archeologists, than perhaps any other single archeological site in coastal Orange County. The most recent episode of intensive research by Scientific Resources Surveys, Inc., began in 1990 and was still ongoing when the Dillon Report was prepared (March, 1997). CA-ORA-83 had produced over 400 cogstones of various types by 1981 (SRS, 1981: 52). Perhaps more significantly, as a result of the more recent (post 1990) work by SRS, also discovered at the site are what can be interpreted as the tools used in order to make cogstones, as well as several failed examples discarded during the process of manufacture. A very enigmatic shell, stone and bone bead industry discovered at the site may predate most or all other stratigraphically identified examples from coastal Orange and Los Angeles Counties.

Other new discoveries are a human burial component at the site. Mason (OCEMA, 1996: 4.12-16-18), concludes that no total estimate of burials is possible, given present information and the fragmentary nature of the finds. He further concludes that a count of at least 19 individuals is possible, and that most if not all represent secondary reburials.

All or most researchers who have studied the CA-ORA-83 archeological site have conceded that large areas of the site are badly disturbed and that the site's archeological potential is quite variable within its boundaries (cf: see also Van Bueren, et. Al, 1989: 72). Notwithstanding the

presence of large zones of disturbance within the site, intensive recent (post 1990) excavations by Nancy Whitney-Desautels and SRS have revealed deeply buried, intact deposits in at least one area of the site near its southern margin.

The Dillon, 1997, archaeological survey found CA-ORA-83 to be present upon the Shea Homes parcel in three separate locations: for the sake of clarity, these three locations of ORA-83 on the Shea Homes property have been referred to as the north, central and south loci.

It should be noted that portions of CA-ORA-83 have been previously referred to by prior researchers as CA-ORA-86 and CA-ORA-144, although it was later determined that they were part of the same archeological site. The probable reason for this occurrence is discussed in Appendix H. The prior references are included in the descriptions below.

CA-ORA-83 (ORA-86) North Locus (On-Site)

The northeasternmost margin of ORA-83 (the northeastern part of that area previously designated as CA-ORA-86) was found in February, 1997, to penetrate into the northwesternmost corner of TT 15377. Abundant marine shell was observed on the Bolsa Chica Mesa Top, on the east-facing slope descending from the mesa top to the old marshland below, and for a short distance eastwards over the low-lying flats below this slope. The archaeological deposit here is very badly disturbed by several dirt roads, by erosion, and, on the flat land below the base of the mesa, by disc-plowing. This disturbance has served to "smear" the deposit and render it larger in horizontal extent that it was prior to such disturbance. No artifacts were observed, but based on the mixture of shell species (i.e., both sandy or silty bottom species and rocky shore species), the presence of midden, and the continuous distribution of the deposit off-parcel to the west and southwest to the main portion of CA-ORA-83 lead ~~Dillow~~ ***Dillon*** to conclude that the deposit here is archaeological rather than natural. Some portions of this deposit are fairly shallow. Dillon found through examination of the root mat of at least one Eucalyptus tree indicates that little or no shell in the sandy, silty soil below the uppermost 10 to 20 cm was present. Deeper deposits could exist elsewhere at this locus on the Shea Homes parcel, but it should be noted that the archaeological deposit is not uniformly or consistently deep at the base of the mesa. Dillon is in agreement with the site boundaries for this area as noted by Weber in 1991 as determined from surface indications and shown on her site record update and reproduced in Appendix A of the Archaeological Report contained in Appendix H of this EIR.

CA-ORA-83 (ORA-144) Central Locus (On-Site)

The easternmost margin of ORA-83 below and to the east of the telephone pole storage yard on the top of Bolsa Chica Mesa (the part of the site earlier designated as CA-ORA-144) was found in February, 1997, to penetrate into the westernmost margin of TT 15377 in the vicinity of proposed streets I and M to its north. The same general appearance of the site as found at the north locus

was also discovered at this location. The archaeological deposit, however, is largely confined to the sloping side of the mesa here, and does not extend outwards over the lowland flats to the east to any appreciable extent. Dillon is in agreement with the site boundaries for this area as noted by Weber in 1991 as determined from surface indications and shown on her site record update and reproduced in Appendix A of the Archaeological Report contained in Appendix H of this EIR.

CA-ORA-83 (ORA-83) South Locus (On-Site)

The southeasternmost margin of ORA-83 to the south of the southern boundary of the telephone pole storage yard (a part of the site originally designated as CA-ORA-83) was found in February, 1997, to penetrate into the northwesternmost margin of TT 15419 in the vicinity of lots 5 & 6 and 10 through 12. The archaeological site deposit here is incorporated into the steep face of the southeast-facing edge of the Bolsa Chica Mesa, between the pole yard to the north and northeast and a large borrow area (previously salvage excavated by Munoz, 1975) lying to the southwest off the subject parcel. The same general appearance of the site as found at the north and central loci was also discovered at this location. The archaeological deposit, however, like that of the central locus, appears largely confined to the steep side of the mesa here, and may not extend outwards over the lowland flats to the east to any appreciable extent. Recent filling and earthmoving has occurred over this flat area which may have obscured surface deposits. Although De Barros (1992) notes or at least suspects surface shell deposits over the flatlands in the Eucalyptus grove to the southeast of TT 15419 and off of the Shea Homes parcel, such an extension of the site does not seem to appear on the Shea Homes side of the property line. Dillon is in agreement with the site boundaries for this southern locus as noted by Weber in 1991 as determined from surface indications and shown on her site record update and reproduced in Appendix A of this report.

CA-ORA-1308 and 1309 (On-Site)

Both ORA-1308 and 1309 were discovered and recorded on the Shea Homes parcel in 1991, and reported upon in the De Barros (1992) report as "possible" or as "potential" archaeological sites. In other words, they were borderline cases that, according to their original recorders, and may not even be archaeological in nature. Doubts as to *bona fide* archaeological site status were initially raised in 1991 because of the total lack of artifacts in surface contexts at both sites, and because the shell composition ratio does not duplicate that of well-known nearby shell middens such as CA-ORA-83, where rock-dwelling species are abundantly represented. If not archaeological, either or both site could possibly represent a natural shell accumulation or perhaps redeposited archaeological material from some other archaeological site in the vicinity. The limited auger test program done by Chambers Group (1991) around the same time that both sites were recorded could not resolve this basic ambiguity about them. If either or both sites can be determined as non-archaeological, then they cease to have archaeological site status and as a consequence need not be mitigated in any way.

This being the case, one of the basic goals of the February, 1997, survey of the Shea Homes parcel was to evaluate both CA-ORA-1308 and 1309, and to determine whether or not either or both were actually archaeological sites. A secondary goal was to assess the significance of either or both sites, as much as possible given the limitations of surface testing, if either or both appeared to be *bona fide* (i.e.,. real sites). The reasoning back and forth to determine if the sites were actually archeological sites is detailed in Appendix H.

CA-ORA-1308

Dillon's conclusion is that CA-ORA-1308 represents a small, badly disturbed archaeological shell deposit, probably quite late in age. In February of 1997, the site was found to be covered with garbage and heavily admixed with imported construction fill (nails, PVC piping, tile, brick, plaster, and cement fragments) probably resulting from occasional and illicit dumping made possible by the site's proximity to Graham street. Other kinds of household garbage (broken glass, plastic, tin and aluminum cans) rounds out the recent historic "artifact" component at the site. The discing has served to churn the deposit and thoroughly admix such modern garbage with the most probably thin original archaeological deposit. Regular discing has also served to flatten and "smear" the site, or secondarily redeposit it, over a much larger horizontal area than it probably occupied before such plowing began.

Ferraro and Beckman in 1991 measured the ORA-1308 archaeological site's dimensions as 35 meters east-west by 55 meters north-south, giving a total surface area which they estimate as around 1,500 square meters. Dillon found the site to measure approximately the same width east-west but only around 35 meters north-south, giving a surface area of only around 1,225 square meters.

This disparity could be the result of changes in the site's dimensions caused by five years of disc-plowing intercalated between the 1991 and 1997 archaeological inspections, or by visibility problems faced by the August, 1991 site recorders, who may have had to deal with vegetational cover which might have obscured the site surface. This latter point cannot be formally addressed, for although Ferraro and Beckman note on their 1991 record form that the site was in "wheat" at the time of their recording. There is no discussion in the De Barros (1992) report detailing the height of such vegetation in the ORA-1308 area, what problems for visual access it might have caused, nor any photographs of the site.

The archaeological site's dimensions will change from year to year depending upon the nature of the disc plowing it is subjected to, and, since such plowing typically proceeds from east to west rather than from north to south, the CA-ORA-1308 site will continue to expand along its east-west axis while generally maintaining its north-south extent. Despite the absence of any measurable evidence, Dillons impression is that prior to repeated disc-plowing of the ORA-1308 site, it probably covered less than half the area it presently occupies today.

CA-ORA-1309

Dillon also concluded that CA-ORA-1309 represents a small, badly disturbed archeological shell deposit. The only real difference between the two sites, apart from their location, is the greater perceived size of ORA-1309 and the near absence of the kinds of recent garbage on it and in it that are characteristic of the ORA-1308 deposit.

Ferraro and Beckman on their 1991 record form measure ORA-1309 as 42 meters east-west by 70 meters north-south for a total area stated as around 2,300 square meters. Dillon found the site to be approximately 60 meters east-west by around 35 meters north-south, giving a total surface area of around 2,100 square meters. The same explanations for the disparity between the 1991 and 1997 site dimensions discussed above in the context of the ORA-1308 site also apply to the ORA-1309 site. Dillon also believes that the ORA-1309 site originally occupied around half its present surface area prior to the advent of modern disc-plowing.

IMPACTS

Appendix G of the CEQA Guidelines serves as a guideline/general example of impacts that are normally considered to have a significant effect on the environment. A project would typically have a significant cultural resources impact if it will:

(j) disrupt or adversely affect a prehistoric or historic archaeological site or a property of historic or cultural significance to a community or ethnic social group; or a paleontological site except as a part of a scientific study.

For purposes of this EIR, and in accordance with Appendix K of CEQA, an "important" archaeological resource is defined as one which:

1) is associated with an event or person of:

   a) recognized significance in California or American history, or
   b) recognized archaeological importance in prehistory;

2) can provide information which is both of demonstrable public interest and useful in addressing scientifically consequential and reasonable or archaeological research questions;

3) has a special or particular quality such as oldest, best example, largest, or last surviving example of its kind;

4) is at least 100 years old and possess substantial stratigraphic integrity; or
5) involves important research questions that historical research has shown can be answered only with archaeological methods.

Paleontological Resources

No significant fossils are known to exist within the Bolsa Chica LCP Area, including the Huntington and Bolsa Chica Mesas. Because the area contains sediments that are geologically young and nonfossiliferous, it is not expected that there are any paleontological resources that could be impacted by development.

Archaeology

According to Appendix H of this EIR, archaeological site significance can only be assessed on a comparative basis, using objective criteria against which each site may be measured. Such criteria normally involve at least the following considerations:

- the site's age;
- the site's uniqueness; and
- how intact the site is.

The greater any given site's age, uniqueness, and intactness (or "integrity"), the more likely it is to be significant; the reverse is also true. These three criteria are not offered as a means of contradicting other (i.e.: "legal" state or federal) definitions of "archaeological significance," simply as a means of offering an explanation in layperson's terms as to how archaeologists typically determine whether a given archaeological site merits preservation, mitigation, or no further action.

TABLE X

COMPARATIVE SIGNIFICANCE, SHEA HOMES ARCHAEOLOGICAL SITES

Site:	Midden	Marine Shell	Artifacts	Burials	Age	Uniqueness	Integrity	Significance
CA-ORA-83*	Abundant	Abundant	Present	Present ?	Millingstone	Great	Poor	Moderate
CA-ORA-1308	Absent	Present	Absent	Absent	Late Prehist	Moderate	Minimal	Very Low
CA-ORA-1309	Absent	Present	Absent	Absent	Late Prehist	Moderate	Very poor	Low

*Only that portion of CA-ORA-83, its northeasternmost margin previously identified as CA-ORA-86, incorporated within the Shea Homes project area, is considered here.

The evaluation of any or all of the three significance criteria for any single archaeological site must be done in consideration of what is already known about the archaeological patterns of the region, and in specific comparative reference to other, similar, sites nearby. A large body of comparative material has been evaluated in the report contained in Appendix H, and provides the basis for the comparisons made for each of the three project archaeological sites. Table X allows for comparisons between the three (3) prehistoric archaeological sites within the study area (study boundaries).

Since all three (3) sites are prehistoric in age, they would qualify as potentially significant under criterion 1. CA-ORA-83, with a well-documented Early Millingstone deposit and substantial intermediate period deposits as well, obviously qualifies. In consideration of criterion 2, those sites with a greater combination of unusual, rare or unique features (burials) or rare and diagnostic artifacts (such as cogstones) are considered much more significant than those sites with few or no unusual, rare, or unique features or artifacts. Therefore, CA-ORA-83 again obviously qualifies here. CA-ORA-1308 and 1309, on the other hand, with no features or artifacts yet reported, must consequently be considered much less significant. In consideration of criterion 3, those sites that have been either badly damaged or nearly destroyed (regardless of how ancient or unique they might once have been) may be assessed as having at best only minimal potential significance. Those with at least some intact portion remaining may be considered comparatively more significant. CA-ORA-1308 and -1309 due to their having been disc-plowed for many years, and CA-ORA-1308 having been used as an illicit dump yield the sites minimal or very poor integrity. Additionally, the portion of CA-ORA-83 within the project boundaries is given a poor integrity rating due to the fact that it could have been redeposited there from some other part of that site.

Taking all of these considerations into account, Dillon concludes that the portion of the CA-ORA-83 archaeological site which is contained by the Shea Homes project is only of moderate significance, specifically in relation to other, better-studied portions of the same site. Several decades of intensive archaeological research in every part of this large and complex but badly disturbed archaeological site reveal that its northeasternmost fringe retains a very low potential for containing intact, undisturbed deposits incorporating features or artifacts in any abundance. The most detailed work on this part of the site (SRS, 1981) suggests most strongly that this portion of the ORA-83 site is a recent result of grading, filling, and earth-moving activities.

Similarly, CA-ORA-1308 and 1309 are, respectively, of minimal and of very low significance because of their lack of artifacts, extremely disturbed state, and, in the case of ORA-1308, the extreme admixture of modern garbage within the deposit.

According to the Dillon report and an evaluation of currently proposed tentative tract maps (see Exhibits 6a and 6c), the proposed project will not result in impacts to CA-ORA-83. As described in Section 3.0, the approximately 8-acre park/open space (with ±3 acres of improved turf area) is proposed and will not be disturbing CA-ORA-83 (complete avoidance of the area), as it will be left as open space. The ±3-acre area will be surface cleared and/or filled with clean dirt import as

described in Section 3.0 of this document. Additionally, according to Table X Comparative Significance, Shea Homes Archaeological Sites of the archaeological assessment, CA-ORA-1308 and CA-ORA-1309 were found to be absent of artifacts and burials, with the significance of each site being very low and low, respectively. According to the report, CA-ORA-1308 and CA-ORA-1309 are, respectively, of minimal and of very low significance because of their lack of artifacts, extremely disturbed state, and, in the case of CA-ORA-1308, the extreme admixture of modern garbage within the deposit. Nevertheless, the proposed project grading and development will result in impacts to these two (2) sites. Implementation of Mitigation Measures 1 through 3 will ensure that the project does not result in significant impacts to CA-ORA-1308 and CA-ORA-1309.

CUMULATIVE IMPACTS

The proposed project in conjunction with other past, present, and reasonably foreseeable future projects will incrementally contribute to the cumulative loss of potentially significant archeological resources in the subregion. The project's incremental contribution to this impact will be mitigated to a level less than significant with implementation of Mitigation Measures 1 through 3.

STANDARD CITY POLICIES AND REQUIREMENTS

The intent of this section is to state standard City conditions and requirements which reduce impacts identified previously in this section. No standard City conditions or requirements are applicable to identified project impacts.

MITIGATION MEASURES

1. Prior to issuance of a grading permit, the applicant shall conduct a subsurface test investigation for CA-ORA-1308 and 1309 to determine the horizontal boundaries of the sites as well as to confirm the surface conclusions of non-significance as indicated in the March, 1997 Archeological Assessment. This may be accomplished through the mechanical excavation of a number of auger holes as well as two 1x1-meter hand excavated units for stratigraphic control. The subsurface test investigation, which includes discussion of significance (depth, nature, condition, and extent of resources), final mitigation recommendations, and cost estimates, shall be submitted to the ~~Community Development~~ ***Planning*** Director for review and approval.

2. Prior to issuance of a grading permit, the applicant shall create (if deemed necessary through Measure 1 above) a cultural resource management plan based on test results. A full data recovery program shall be designed if site avoidance is not feasible through design. Possible recovery plans include, but are not limited to, preservation, salvage, partial salvage, or no mitigation necessary. The plan shall ***include consultation with appropriate Native American Organization and*** be reviewed and approved by the ~~Community Development~~

Planning Director. ***Additionally the plan shall require peer review in conformance with the Coastal Commission's Archeological Guidelines.***

3. Prior to issuance of a grading permit, the applicant shall provide written evidence that a certified archaeologist has been retained, shall be present at the pre-grading meeting/ conference, shall establish procedures for archaeological resource surveillance, and shall establish, in cooperation with the project proponent, procedures for temporarily halting or redirecting work to permit the sampling, identification, and evaluation of the artifacts as appropriate. If additional or unexpected archaeological features are discovered, the archeologist shall report such findings to the applicant and to the ~~Community Development~~ ***Planning*** Department. If the archaeological resources are found to be significant, the archaeological observer shall determine appropriate actions, in cooperation with the applicant, for exploration and/or salvage. These actions, as well as final mitigation and disposition of the resources, shall be subject to the approval of the ~~Community Development~~ ***Planning*** Director.

LEVEL OF SIGNIFICANCE

The proposed project will not result in a significant impact on paleontological sites.

The proposed project may result in a significant impact on archaeological sites CA-ORA-1308 and 1309. Mitigation Measures 1 through 3 will reduce this impact to a level of insignificance.

The proposed project in conjunction with other past, present, and reasonably foreseeable future projects will incrementally contribute to the cumulative loss of potentially significant cultural resources. The project's incremental contribution to this impact will be mitigated to a level of insignificance with implementation of Mitigation Measures 1 through 3.

5.10 PUBLIC SERVICES AND UTILITIES

Information used in the preparation of this analysis was obtained through letters and phone conversations with public services and utilities in October, 1997 through February, 1998. Utility service questionnaires are contained in Appendix A of this EIR.

EXISTING CONDITIONS

Fire

The following information is based on correspondence from the City of Huntington Beach Fire Department dated October 8, 1997 ***and conversations/correspondence dated September 4, 2002***. Fire protection for the proposed project will be provided by the Huntington Beach Fire Department. The site will be served by ~~two~~ ***three*** stations. The first is the Heil Fire Station #8 located at 5891 Heil Street, approximately one ***and one-half (1 ½)*** mile***s*** from the project site. The second station serving the site is the Warner Station #7 at 3831 Warner Avenue, approximately ~~one and one half (1½)~~ ***two (2)*** miles from the project site. ***The third station is the Edwards Station #6 at 18951 Edwards Street approximately 2 ¼ miles from the site.***

Heil Station is equipped with a four-person paramedic engine company. Response time from the Heil Station is estimated to be five minutes. Warner Station is equipped with a four-person paramedic engine. Response time from the Warner Station is estimated to be five minutes and 30 seconds. ***Edwards Station is equipped with a four-person paramedic engine company and two-person ambulance company. Response time from the Edwards Station is estimated to be five minutes.*** These stations provide fire protection, emergency medical aid (paramedic level), and emergency ambulance transportation.

Fire Station #8 at 5891 Heil Avenue is planned to be relocated to Graham and Production Lane ~~by the year 2000~~ ***as funding permits*** in order to mitigate a response deficiency that exists in the industrial section of the City of Huntington Beach. This will result in Station #8 being one and three-quarter (1¾) miles instead of one ***and one-half (1 ½)*** mile***s*** from the project site~~., making Warner Station #7 the closest station to the site.~~ Fire Station #6 located on Edwards Street near Ellis Avenue ***was*** ~~is scheduled to be~~ constructed in ***2000*** ~~late 1998~~, ~~which will be~~ ***and is currently*** a back-up unit to the proposed project site. ***With the relocation of Station #8, Station #6 would be assigned as the primary responding station.***

Currently, fire department response time to the project area does ~~not~~ meet the criteria established by the Cities Growth Management Committee. This policy requires a fire department response time under five minutes 80 percent of the time.

Police

The following information is based on correspondence from the City of Huntington Beach Police Department dated October 13, 1997. Police service is provided to the project area by the Huntington Beach Police Department. The project site encompasses Reporting District # 176. The Department is currently responsible for crime prevention, investigation, and enforcement of

the law, providing police support to the area with patrol responses, reporting, and investigative support. The department currently provides minimal law enforcement services to the project site.

The Police Department is located approximately 4 miles from the project site, located at 2000 Main Street at Yorktown Avenue in Huntington Beach. The averages for response times (including dispatch time) are:

- Priority 1 = 7.9 minutes
- Priority 2 = 14.65 minutes
- Priority 3 = 19.05 minutes

Police vehicles include passenger cars, motorcycles, helicopters, vans, and buses. At the present time, the Police Department has 224 sworn officers and 142 civilian personnel.

Schools

The following information is based on correspondence from the Ocean View School District and the Huntington Beach Union High School District, dated November 25, 1997 and November 6, 1997, respectively.

Ocean View School District

The proposed project site lies within the Ocean View School District for elementary (grades K-5) and middle (grades 6-8) schools. Middle schools within the District provide a balanced curriculum that includes computer labs, woodshops, art rooms, and music rooms.

Hope View School is the elementary facility that will serve the project site. It is approximately one and one half (1½) miles from the site.

Enrollment at Hope View is currently 628 students with a projected enrollment of 5 percent increase annually. By the year 2000, the projected enrollment will be 718 students. The District currently attempts to cap enrollment growth at 650 to 700 students for elementary schools. All elementary schools in the District are participating in the Class Size Reduction Program. In order to meet the required ratio of twenty students to one teacher (20:1) for grades K-3, the District recently purchased twenty-eight portables. Generally, Hope View elementary school is built out.

Marine View is the middle school facility that will serve the project site. It is approximately four (4) miles from the site. Enrollment at Marine View Middle School is currently 764 students with an annual increase of approximately 2 percent. The District anticipates the need for one additional portable for the 1998-99 school year. Additionally, the District currently has a need to

improve the physical education facilities at Marine View, as well as Mesa View, Spring View, and Vista View middle schools. Generally, Marine View middle school is built out.

Huntington Beach Union High School District

The project site lies within the Huntington Beach Union High School District for high schools (grades 9-12). Huntington Beach High School is the facility that will serve the project site. It is located at 1905 Main Street, approximately two and one-half (2 ½) miles from the site. According to the District, schools are projected to be fully occupied in the near future from the impact of enrollment growth from existing homes.

Community Services

The following information is based on correspondence from the City of Huntington Beach Community Services Department, dated January 22, 1998. The Community Services Department is responsible for recreation, park development, arts and cultural services, human services, beach maintenance, parking, and marine safety. The site currently does not place a demand on this service.

Water

The following information is based on correspondence from the City of Huntington Beach Public Works Department - Water Division, dated October 10, 1997 and February 5, 1998.

The City of Huntington Beach Water Division provides potable water for domestic, fire, and irrigation service to areas within the City of Huntington Beach.

The City of Huntington Beach water supply is derived from two primary sources: imported water from the Metropolitan Water District of Southern California and groundwater from the Orange County Groundwater Basin. On an annual average, the Water Division obtains approximately 70 percent of its water from the nine city wells, and imports 30 percent of its water via the Metropolitan Water District (MWD) system. The Water Division maintains emergency connections with the cities of Fountain Valley, Westminster, and Seal Beach.

The City of Huntington Beach maintains a Water Master Plan (WMP), which identifies existing and projected water facilities for areas within the City. The WMP is based on the City's General Plan, as adopted in April, 1995. According to the Public Works Department, the 1995 WMP has identified certain water supply and storage deficiencies for storage areas. These will be corrected upon completion of the projects identified in the WMP by the year 2006. Funding for such corrections shall be provided via the funding mechanisms identified in the WMP.

According to the WMP, the closest water lines to the project site are as follows: there is a 12-inch water line in Graham Street, east of the site and an 8-inch water line in Greenleaf Lane, north of the site.

Water currently provided to the site is minimal; the project site is vacant and does not generate a substantial need for water.

Public Transportation

The following information is based on correspondence from the Orange County Transportation Authority (OCTA), dated February 3, 1998. Public transportation service to the project vicinity is provided by OCTA. Transit service is currently provided to the project area along Warner Avenue and Graham Street. Bus route 72 provides sixty-two (62) one-way trips daily. Bus service operates on Warner Avenue and limited service operates on Graham Street. Two of these trips run on Graham Street. There are also the following seven bus stops in the area: 1) eastbound on Warner east of Leslie 2) eastbound on Warner east of Graham 3) southbound on Graham south of Warner 4) eastbound on Slater east of Graham 5) northbound on Graham north of Slater 6) westbound on Warner west of Graham 7) westbound on Warner opposite Leslie.

The level of transit service is currently planned to increase by 49 percent by the year 2015.

Sewer

The following information is based on correspondence from the City of Huntington Beach Public Works Department and the County Sanitation Districts of Orange County, dated October 9, 1997 and October 19, 1997 respectively.

The existing sewer facilities for the Huntington Beach portion of the project site are served by two agencies: 1) the City of Huntington Beach, Public Works Department, Sewage Division, for collection of wastewater; and 2) the County Sanitation Districts (OCSD) of Orange County District No. 11, for the treatment of wastewater. Wastewater generated within the District's service area is processed at treatment plants: OCSD Plant No. 5 located at 10844 Ellis Avenue in Fountain Valley; and Plant No. 2 located easterly of the City of Huntington Beach, approximately 12 miles from this property.

The City Sewer Division provides public sanitary sewer services to the Huntington Beach portion of the project site.

There is currently a need to construct a new sewer lift station to handle existing flows, as well as any potential proposed flows. The existing sewer lift station (Station No. 1) located along Graham Street north of the project site is deficient.

The OCSD operates under a National Pollutant Discharge Elimination System (NPDES) permit issued by the California Regional Water Quality Control Board (CRWQCB). This permit has a set discharge limit for biochemical oxygen demand (BOD) and suspended solids (SS), which are affected by the flow received for treatment. The ***City portion of the*** project area is within OCSD No. 11, and for sewage flow purposes, it is tributary to the OCSD No. 11 Slater Avenue Pump Station, which is currently deficient. ***The 4.5-acre County parcel is not currently within the Orange County Sanitation District's boundaries.***

The project site currently does not generate sewage.

Storm Drainage

Please refer to Section 5.7 Drainage/Hydrology of this EIR for a discussion of storm drainage.

Natural Gas

The following information is based on correspondence from the Southern California Gas Company, dated January 20, 1998. Natural gas service is provided by The Southern California Gas Company. Existing facilities in the area include existing lines located along Graham Street, Kenilworth Drive, and Greenleaf Lane. An existing unrecorded 10-~~foot~~ ***inch*** above-ground gas line is located on-site. The uses onsite currently do not place a significant demand on this service.

Electricity

The following information is based on correspondence from the Southern California Edison Company, received September 25, 1997. Electrical service is provided in the area by Southern California Edison Company (SCE). All new lines installed in the City are required to be underground, and the City is currently working with SCE to achieve the undergrounding of existing lines.

IMPACTS

Appendix G of the CEQA Guidelines serves as a guideline/general example of consequences that are deemed to have a significant effect on the environment. A project may be deemed to have a significant public services and utilities effect if it will:

(e) Breach published national, state, or local standards relating to solid waste or litter control;
(n) Encourage activities which result in the use of large amounts of fuel, water, or energy;
(o) Use fuel, water, or energy in a wasteful manner;

(z) Interfere with emergency response plans or emergency evacuation plans.

Additionally, for the purposes of this EIR, expansion of existing services due to project demand constitutes a significant impact if the provider anticipates substantial difficulty in providing increased service. All public services and utilities have been analyzed to assess capacity impacts associated with the proposed project.

Fire

Future development of the project site may create a need for additional fire protection services. The increase in the number of residential units and the number of individuals brought into the area, as well as the resulting increase in traffic will directly affect the fire department's responses.

Currently, fire department response time from the Heil and ~~Warner~~ ***Edwards*** stations to the project area do ~~not~~ meet the criteria established by the Cities Growth Management Committee, which requires a fire department response time under five minutes 80 percent of the time. As indicated previously, the Heil Station at 5891 Heil Avenue, although currently only one ***and one half*** (1 ½) mile***s*** away from the project site, is planned to be relocated to Graham and Production Lane ~~by the Year 2000~~***as funding permits***, resulting in the fire station being located one and three-quarter (1 ¾) miles away from the project site. Additional impacts to current response times are anticipated with relocation of the fire station. Response time from the new location to the project site would be greater than five minutes. ***However, Station #6 located near Edwards and Ellis became operational in 2000 and tests conducted by the Fire Department demonstrate that Station #6 is capable of meeting the 5 minute emergency response time for the project.***

~~Warner Station #7 would become the closest station to the project site, being located one and one-half (1½) miles from the site with a response time of five-and-a-half (5 ½) minutes.~~

Potentially, one additional fire company will be required at the new facility at Graham and Production Lane. Capital revenue for this new facility is currently under negotiation with the development of the Bolsa Chica Wetlands. The most likely source for revenue will come from the City's General Fund. Additionally, the fire department has reviewed the proposed access points (i.e., one full access off Graham Street and one "emergency only" access [which was initially proposed as a full access] at Greenleaf Lane) and have concluded that the proposal is acceptable from a fire safety standpoint as long as a traffic signal is installed at the Graham access (refer to traffic mitigation) and Mitigation Measure 1 of this section is implemented. Implementation of Mitigation Measure 1 will reduce impacts related to the need for adequate response times and additional fire protection services to a level less than significant.

Police

Development within the project area will adversely impact the level of police services presently provided. Calls for service will increase, requiring additional staff and office time to manage the

project area. Unless additional personnel are provided for the proposed area, the level of service needed will decrease in both response time and quality of service. According to the City of Huntington Beach Police Department's equation for low density residential development, assuming the County of Orange parcel is annexed into the City of Huntington Beach, the Police Department could anticipate one call for service per 2.04 units per year. The equation would be: ~~208~~ ***206*** units × 1 call/2.04 units = ~~102~~ ***101*** calls expected per year at project buildout. To maintain the existing workload of 356 calls per officer per year, ~~102~~ ***101*** calls per year ÷ 356 calls per officer per year = .29 officers required to complement the existing staff. If the County of Orange parcel is not annexed into the City, the equation would be: ~~183~~ ***181*** units × 1 call/2.04 units ÷ 356 calls/ officer/year = .25 officers required to complement the existing staff. This increase would not be significant.

Although implementation of the proposed project would not require the need for one full-time officer, the project would increase the calls for service; therefore, increasing the workload of the Police Department. Implementation of Mitigation Measures 2 and 3 would reduce this project-specific impact to a level less than significant.

Schools

The development of ~~208~~ ***206*** new residential units would generate additional students. Overall, schools are built out and could not accommodate additional students. Other costs include the need for increased staff (certified and classified), classroom supplies, textbooks, transportation, and technology equipment. Potential impacts to Ocean View School District and Huntington Beach Union High School District due the proposed project are discussed below.

Ocean View School District

The proposed project would result in the generation of additional students to attend elementary schools within the Ocean View School District. The District currently utilizes a .329 student generation factor for elementary schools (K-5). Assuming buildout of ~~208~~ ***206*** single family dwelling units, the proposed project would result in the generation of 68 students that would attend Ocean View School District elementary schools. The additional 68 students would require three (3) additional classrooms and employment of three (3) additional certified full-time teachers at the elementary level.

As identified previously under existing conditions, due to the Class Size Reduction Program, which requires classroom sizes of 20 students or less for third grade class levels and below, Ocean View School District has been required to provide approximately 70 additional classrooms District-wide. The over-capacity condition within Ocean View School District elementary schools would be further worsened, which is considered a significant impact. Mitigation Measure 4 would reduce the project's impact to a level less than significant.

Ocean View School District currently utilizes a .089 student generation factor for middle schools (6-8). Assuming buildout of ~~208~~ ***206*** single family dwelling units, the proposed project would result in the generation of 19 students that would attend Ocean View School District middle schools. The additional 19 students would require one (1) additional classroom and employment of one (1) additional certified part-time teacher at the middle school level. The over-capacity condition within Ocean View School District middle schools would be further worsened, which is considered a significant impact. Mitigation Measure 4 would reduce the project's impact to a level less than significant.

Huntington Beach Union High School District

The proposed project would result in the generation of additional students to attend ~~elementary~~ schools within the Huntington Beach Union High School District. Huntington Beach Union High School District currently utilizes a student generation factor of .2 high school students per single family dwelling unit. Assuming buildout of 208 single family dwelling units, the proposed project would result in the generation of approximately 42 students that would attend Huntington Beach High School. According to the Huntington Beach Union High School District, the District's schools are projected to be fully occupied from the impact of enrollment growth from existing homes. Thus, the project would generate a need for additional facilities and staff. Funding for staff is provided through the State revenue limit formula, and there currently is no source of funds for the expansion of facilities, with the exception of developer fees. The over-capacity condition within Huntington Beach High School would be further worsened, which is considered a significant impact.

According to the Huntington Union High School District, the District and the applicant currently have a mitigation agreement on the project. Mitigation Measure 5 would reduce the project's impact to a level less than significant.

Community Services

The proposed project would create an increased demand for recreational facilities due to the increase in population. The proposed project will generate a maximum of ~~714~~*707* residents based on 3.43 persons per household. The ***City's*** acreage-to-population standard prescribes five (5) acres of parkland per 1,000 residents. ***The County's local park code provides for 2.5 acres of land or the proportionate share thereof for each 1,000 persons residing within the County. This requirement shall be complied with by the provision of parkland, the payment of park fees, or by a combination of both. The EIR analysis utilized the City's requirement as it is more stringent.*** To meet the City's parkland requirement, the project would need to provide 3.5~~7~~*4* acres of parkland/open space for the new residents.

As indicated in Section 3.0 Project Description of this EIR, the property owner (Shea Homes) proposes the provision of approximately 8.2 acres of open space/recreational uses, which includes ~~4.6~~*4.4* acres of bluff and down slopes to a stand of eucalyptus trees, and a ~~3.6~~ *3.8*-acre flat area at the base of the bluff, which will accommodate recreational activities. This land use represents

16.~~6~~*8* percent of the entire project site. In addition, the property owner is offering $250,000 worth of improvements. According to the Community Services Deputy Director, funding would provide turf, trees (including addressing the eucalyptus grove), irrigation, and earth movement to divert water off of the park site.

Based on a requirement of 3.5~~7~~*4* park/open space acres, the provision of 8.2 acres of recreation open space and improvement funds, the project exceeds the park requirement by approximately 4.~~63~~*86* acres. Additionally, the Community Services Department has indicated that it concurs with the overall property-owner proposed combination of money and land. Although the project will create an increased demand for recreational facilities, the project proposes more than adequate park components to offset this potential impact. No impacts are anticipated.

Water

City of Huntington Beach

Implementation of the proposed project would result in development of land uses that may impact existing City water services and facilities. According to the City of Huntington Beach Public Works Department - Water Division, the estimated water consumption rate for the proposed project is approximately 130,000 gallons per day.

The expansion of future City-wide improvements are detailed in the 1995 Water System Master Plan (WMP) Update. ***Since that time, the Water Division has adopted a revised Water Master Plan dated December 2000.*** As indicated by the Water Division, as long as the proposed project is consistent with the City's General Plan, as adopted in ~~April, 1995~~***May 1996***, the project would not adversely impact the existing level of service. According to correspondence from the City Water Division, the proposed project is consistent with the Water ~~System~~ Master Plan ~~update~~.

The City of Huntington Beach Water System Master Plan 1995 Update prepared by Boyle Engineering has formulated an improvement system to accommodate all project development within the City. In order to more specifically define the impact of the proposed project on the City's water system and to determine the acceptable piping sizes required within the proposed development, the City Public Works Department requires that the property owner (Shea Homes) provide a hydraulic computer water model analysis. Implementation of Mitigation Measure 6 through 13 will reduce impacts to water services and facilities resulting from development proposed within the City of Huntington Beach to a level less than significant.

County of Orange

Implementation of the proposed project would result in development of 2~~5~~7 dwelling units located within the County of Orange that may impact existing City water services and facilities. According to the City of Huntington Beach Public Works Department - Water Division, the

estimated water consumption rate for the proposed project is approximately 130,000 gallons per day.

The expansion of future City-wide improvements are detailed in the 1995 Water System Master Plan (WMP) Update. ***Since that time, the Water Division has adopted a revised Water Master Plan dated December 2000.*** However, according to the City Water Division, areas currently existing outside existing City boundaries were not factored into the 1995 Master Plan's analysis ***nor the December 2000 Water Master Plan***. Consequently, any impacts these new areas may cause would need to be reviewed and mitigated.

The County of Orange portion of the site outside existing City boundaries was not factored into the 1995 Master Plan's analysis ***nor the December 2000 Water Master Plan***. According to the Water Department, the City cannot supply water to any development that is not within the City's limits unless the City declares there is a surplus of water and LAFCO approves the service, or the area annexes to the City prior to being served. Implementation of Mitigation Measures 7 through 13 will reduce impacts to water services and facilities resulting from development proposed within the County of Orange to a level less than significant.

The proposed park may result in significant effects to water services and facilities due to the implementation of turf areas that would require water. Implementation of Mitigation Measures 14 and 15 will reduce impacts to water services and facilities due to the proposed park to a level less than significant.

Public Transportation

The proposed project may result in impacts to the level of service presently provided by OCTA due to the increased number of residents in the area that may utilize OCTA services. According to OCTA, the proposed project is not expected to adversely impact the level of service OCTA presently provides to the area nor will the project create a need for the expansion of facilities or addition of staff. OCTA plans to increase the level of transit service by 49 percent by the year 2015. Implementation of the proposed project will not result in impacts to public transportation level of service.

Sewer

Implementation of the proposed project may result in additional demand on the existing sewer system from increased sewage flows. According to the City Public Works Department, the proposed project would be required to convey its sewer flows to an existing sewer lift station (station #1) and force main; however as indicated previously, this station and force main are known to be deficient. ***Additionally, the 4.5-acre County parcel will require annexation to the Orange County Sanitation District.***

City standards were utilized to calculate the average sewer flows estimated for the proposed project. Although County Sanitation Districts generation rates could have been utilized to calculate average flows, City standards were used as they are more restrictive and provided a more "worst*e*-case" estimate. Based on City standards, the average sewer flows estimated for the proposed project are as follows:

- 42 acres of Low Density Residential at 1800 gallons/day/acre = 75,600 gallons per day
- 8-acre park site at 200 gallons/day = 1,600 gallons per day

Total Estimated On-Site Average Flows = 77,200 gallons per day

Hunsaker & Associates prepared a Sewer Plan (refer to Appendix I of this document) to accommodate anticipated sewer flows. The project proposes to construct a new sewer lift station and force main and abandon the existing station and force main. According to the Sewer Plan, the proposed sewer system would flow by gravity to a new sewer lift station sited adjacent to Lot No. 68 in the Graham Street right-of-way, approximately 150 feet south of Kenilworth Drive. Modifications would be made to the City's gravity sewer system in Graham Street in order for existing sewer flows to be collected and pumped by the new lift station through a new force main to the Orange County Sanitation District sewer, located in Warner Avenue.

The new sewer lift station would be similar to the City's Ellis Avenue Sewage Lift Station, as required by City staff. The lift station would be designed as a two-pump facility with each pump capable of pumping the estimated design peak flow.

The existing sewer system would remain intact until the new lift station and force main are completed and accepted by the City. The existing Graham Street Sewer Lift Station would be abandoned only after the new lift station and force main are operational, and accepted by the City. Implementation of Mitigation Measure*s **13 and*** 16 will reduce impacts related to demands on the existing sewer system to a level less than significant.

Storm Drainage

Please refer to Section 5.7 Drainage/Hydrology of this EIR for a discussion of impacts related to storm drainage.

Natural Gas

The Gas Company indicates that gas service could be provided to the proposed project. The availability of natural gas service is based upon present conditions of gas supply and regulatory policies. The Gas Company anticipates that project consumption can be accommodated by existing facilities without any significant impacts. Mitigation Measure 17 is proposed to ensure energy conservation standards are met. No impacts are anticipated with implementation of proposed mitigation.

It should be noted that Assembly Bill 1890, commonly referred to as the "Public Utilities Act", has allowed for the deregulation of public utilities in California. Based on this Act, a number of other service providers are able to enter the marketplace. Consequently, there may be additional utility service providers in the near future providing the same services that The Gas Company currently provides to southern California and the proposed project site.

Electricity

Adequate electric power supply can be provided. SCE does not anticipate any significant impacts in providing the project site with electrical power. Mitigation Measure 18 is proposed to ensure energy conservation standards are met. No impacts are anticipated with implementation of proposed mitigation. SCE stands ready to install distribution facilities for the project site.

It should be noted that Assembly Bill 1890, commonly referred to as the "Public Utilities Act", has allowed for the deregulation of public utilities in California. Based on this Act, a number of other service providers are able to enter the marketplace. Consequently, there may be additional utility service providers in the near future providing the same services that The Edison Company currently provides to southern California and the proposed project site.

CUMULATIVE IMPACTS

Fire

The proposed project, in conjunction with other past, present and reasonably foreseeable future developments, will have an incremental cumulative impact on fire services.

Police

The proposed project, in conjunction with other past, present and reasonably foreseeable future developments, will have an incremental cumulative impact on police services.

Schools

The proposed project, in conjunction with other past, present and reasonably foreseeable future developments, will have an incremental cumulative impact on schools.

Community Services

The proposed project, in conjunction with other past, present and reasonably foreseeable future developments, will have an incremental cumulative impact on community services.

Water

The proposed project, in conjunction with other past, present and reasonably foreseeable future developments, will have an incremental cumulative impact on water supplies and facilities.

Public Transportation

The proposed project will not result in impacts to public transportation levels of service; therefore, the project in and of itself will not contribute to the cumulative impact on public transportation services in the area.

Sewer

The proposed project, in conjunction with other past, present and reasonably foreseeable future developments, will have an incremental cumulative impact on sewage facilities.

Storm Drains

Refer to Section 5.7 Drainage/Hydrology for a discussion of cumulative impacts related to storm drains.

Natural Gas

The proposed project, in conjunction with other past, present and reasonably foreseeable future developments, will have an incremental cumulative impact on natural gas.

Electricity

The proposed project, in conjunction with other past, present and reasonably foreseeable future developments, will have an incremental cumulative impact on electricity.

STANDARD CITY POLICIES AND REQUIREMENTS

A. All applicable Public Works fees shall be paid. The developer will be responsible for the payment of any additional fees in place at the time building permits are pulled.

MITIGATION MEASURES

Fire

1. Prior to approval of building permits, building plans shall be submitted to and approved by the Fire Department. If during the Fire Department's plan check it becomes evident that fireground operations will become impeded, the department will impose ~~standard~~ ***additional*** fire code requirements ~~such as~~ ***in addition to the*** automatic sprinkler systems, alarm systems, access roads, etc.

Police

2. Prior to issuance of building permits, the Police Department shall be consulted during preliminary stages of the project design to review the safety features, determine their adequacy, and suggest improvements.

3. During construction and at complete buildout, the project shall provide easy access into and within the project site for emergency vehicles and addresses shall be well marked to facilitate response by officers. Prior to the first Certificate of Occupancy, project site plans depicting these requirements shall be reviewed and approved by the Police Department.

Schools

4. Prior to issuance of building permits, the applicant shall provide school fees to mitigate conditions of overcrowding as part of building permit application. These fees shall be based on the State fee schedule in effect at the time of building permit applications.

5. Prior to issuance of building permits, the applicant shall show proof of compliance with the Mitigation Agreement established between the Huntington Beach Union High School District, subject to the approval of the City of Huntington Beach.

Water

6. Prior to issuance of grading permits, the developer shall submit a hydraulic computer water model analysis for the development proposed on the City parcel, which addresses the following:

    a. Water demand required by project
    (fire flow demand as determined by the Fire Department)

b. Master Plan/General Plan Amendment (GPA) review
The City of Huntington Beach Water (Master Plan) System Computer Model (i.e. ***H2O*** ~~Boyle~~NET) must be run with the proposed land use demands (i.e. GPA), and contrasted with the model run using the existing land use demands, (i.e. the General Plan, in effect at the time the Water Master Plan was adopted).

The City of Huntington Beach Water Division must be contracted to perform this analysis on the existing City of Huntington Beach Water System Model (***H2O*** ~~Boyle~~NET), for a fee to be paid by the developer a minimum of 30 days in advance. If the analysis shows that project demands cannot be met with the City's current water system, the developer shall be required to upgrade the City's system to meet the demands and/or otherwise mitigate the impacts of the project at no cost to the City.

7. Prior to issuance of use and occupancy permits, the following water conservation measures shall be implemented as required by state law:

   a. Ultra-low-flush toilets
   b. Ultra-low-flow showers and faucets
   c. Insulation of hot water lines in water recirculating systems
   d. Compliance with water conservation provisions of the appropriate plumbing code

8. Prior to issuance of use and occupancy permits, water pressure regulators to limit downstream pressure to a maximum of 60 psi shall be installed.

9. Prior to issuance of building permits, pervious paving material shall be used whenever feasible to reduce surface water runoff and aid in groundwater recharge and slopes and grades shall be controlled to discourage water waste through runoff.

10. Prior to issuance of use and occupancy permits, the applicant shall provide information to prospective residents regarding benefits of low water use landscaping and sources of additional assistance in selecting irrigation and landscaping.

11. The Water Division ***and Park, Tree, and Landscape Division*** of the City's Public Works Department shall be consulted during design and construction of the Park for further water conservation measures to review irrigation designs and drought tolerant plant use, as well as measures that may be incorporated into the project to reduce peak hour water demand.

12. Prior to issuance of grading permits, the developer shall submit a hydraulic computer water model analysis for the portion of the project to be developed on the County parcel, which addresses the following:

a. Water demand required by project
(fire flow demand as determined by the Fire Department)

b. Master Plan/General Plan Amendment (GPA) review
The City of Huntington Beach Water (Master Plan) System Computer Model (i.e. ***H2O*** ~~Boyle~~NET) must be run with the proposed land use demands (i.e. GPA), and contrasted with the model run using the existing land use demands, (i.e. the General Plan, in effect at the time the ***current*** Water Master Plan was adopted).

The City of Huntington Beach Water Division must be contracted to perform this analysis on the existing City of Huntington Beach Water System Model (***H2O*** ~~Boyle~~NET), for a fee to be paid by the developer a minimum of 30 days in advance. The developer shall be required to upgrade the City's system to meet the demands and/or otherwise mitigate the impacts of the project proposed development on the County parcel, at no cost to the City. Any incremental impacts to the City's water system would need to be mitigated to the satisfaction of the Department of Public Works - Water Division.

13. Prior to the issuance of building permits, ***for any lot within the 4.5 acre parcel within the County of Orange,*** the applicant shall show proof from LAFCO of approval of annexation of the County parcel into the City of Huntington Beach, ***and the Orange County Sanitation District*** subject to the approval of the City Planning and Public Works Departments.

14. Irrigation systems within the Park which minimize water waste shall be used to the greatest extent possible. Such measures should involve, where appropriate, the following features:

a. Raised planters and berming in conjunction with closely spaced low volume, low angle (22 ½ degree) sprinkler heads.
b. Drip irrigation
c. Irrigation systems controlled automatically to ensure watering during early morning or evening hours to reduce evaporation losses.
d. The use of reclaimed water for irrigated areas and grass lands. The project applicants shall connect to the Orange County Water District's "Green Acres" system of reclaimed water should this supply of water be available. Separate irrigation services shall be installed to ease this transition.

15. Landscape and irrigation plans for the Park which encourage minimize***d*** use of lawns and utilize warm season, drought tolerant species shall be submitted to and approved by the Water Division ***and Park, Tree, and Landscape Division***. ~~Irrigation system shall be designed to use reclaimed water when available.~~

Sewer

16. Prior to the issuance of building permits, the property owner (Shea Homes) shall construct the new sewer lift station and force main in accordance with the City-approved Sewer Plan for the proposed project, and implement conditions of the Public Works Department regarding sewer infrastructure improvements to handle increased sewer flow demands.

Storm Drains

Please refer to Section 5.7 Drainage/Hydrology of this EIR.

Natural Gas

17. Prior to issuance of building permits, ~~The~~ ***the Southern California*** Gas Company or designated natural gas provider shall be consulted with during the building design phase for further energy conservation measures.

Electricity

18. Prior to issuance of building permits, SCE shall be consulted with during the building design phase for further energy conservation measures.

LEVEL OF SIGNIFICANCE

Implementation of the proposed project will not result in significant impacts to public transportation services.

Implementation of the above measures will mitigate all project-specific impacts to public services and utilities to a level less than significant.

The proposed project will create increased demand for public services and utilities on a local and regional basis. Additionally, the project, in conjunction with other past, present and reasonably foreseeable future projects, will create an increased demand on fire, police, schools, community services, water, sewer, natural gas, and electrical services and facilities. Implementation of mitigation measures will reduce each incremental cumulative impact on the associated public services and/or utilities to a level less than significant.